



Pacific Islands Fishery News

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Intersessional Meeting to Advance New Tropical Tuna Measure was held August 22-24, 2017 at the Hilton Hawaiian Village in Honolulu, Hawai'i.

WCPFC Holds Honolulu Intersessional Meeting to Advance New Tropical Tuna Measure

Approximately 180 delegates from member countries, participating territories and cooperating non-members of the Western and Central Pacific Fisheries Commission (WCPFC) attended the Aug. 22 to 24, 2017, meeting in Waikiki to advance negotiations on a new multiyear tropical tuna conservation and management measure. The existing WCPFC tropical tuna measure expires at the end of the 2017. WCPFC Chair Rhea Moss-Christian (Federated States of Micronesia) presided over the meeting, which was hosted by the United States and coordinated by the Western Pacific Regional Fishery Management Council.

Delegates discussed new measures for Western and Central Pacific Ocean (WCPO) skipjack, yellowfin and bigeye tuna, which together comprise the world's largest tuna fishery. In 2016, the total catch of these three species was around

2.8 million metric tons (mt), worth approximately \$5 billion in dockside value. The purse-seine fishery, which targets skipjack and yellowfin and incidentally catches juvenile bigeye when fishing on fish aggregation devices (FADs), harvests about 65 percent of the total catch, followed by longline, pole-and-line, troll and artisanal fishing gears.

The meeting focused on management options for purse-seine and longline fisheries. Measures since 2008 have largely been driven by poor stock status of bigeye tuna and have restricted bigeye fishing mortality. They include seasonal FAD closures for purse-seiners, and country-based annual catch quotas for longliners. The 2017 bigeye stock assessment has resulted in improved stock status, such that bigeye is no longer believed to be experiencing overfishing and is not in an overfished condition. The WCPFC Scientific

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WCPFC Holds Honolulu Intersessional Meeting

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Committee, which met Aug. 9 to 17, in Rarotonga, Cooks Islands, cautioned against any increases in fishing mortality and recommended bigeye catches to not be increased over recent current levels.

Proposals introduced at the Honolulu meeting to address purse-seine impacts to bigeye included a) status quo (four-month FAD closure plus high seas FAD closure, with exceptions); b) three-month FAD closure plus high seas FAD closure, c) three-month FAD closure with five-month high seas FAD closure, d) four-month FAD closure with five-month closure applicable to vessels that catch more than 500 mt of bigeye on average, e) FAD set limits based on exclusive economic zones (EEZs), and f) country-based FAD limits. The delegates also discussed purse-seine effort limits and allocation of those limits to areas within national jurisdiction and on the high seas. Some members are looking to eliminate the existing high seas effort limits in favor of an Olympic high seas limit that would be available to all fleets.

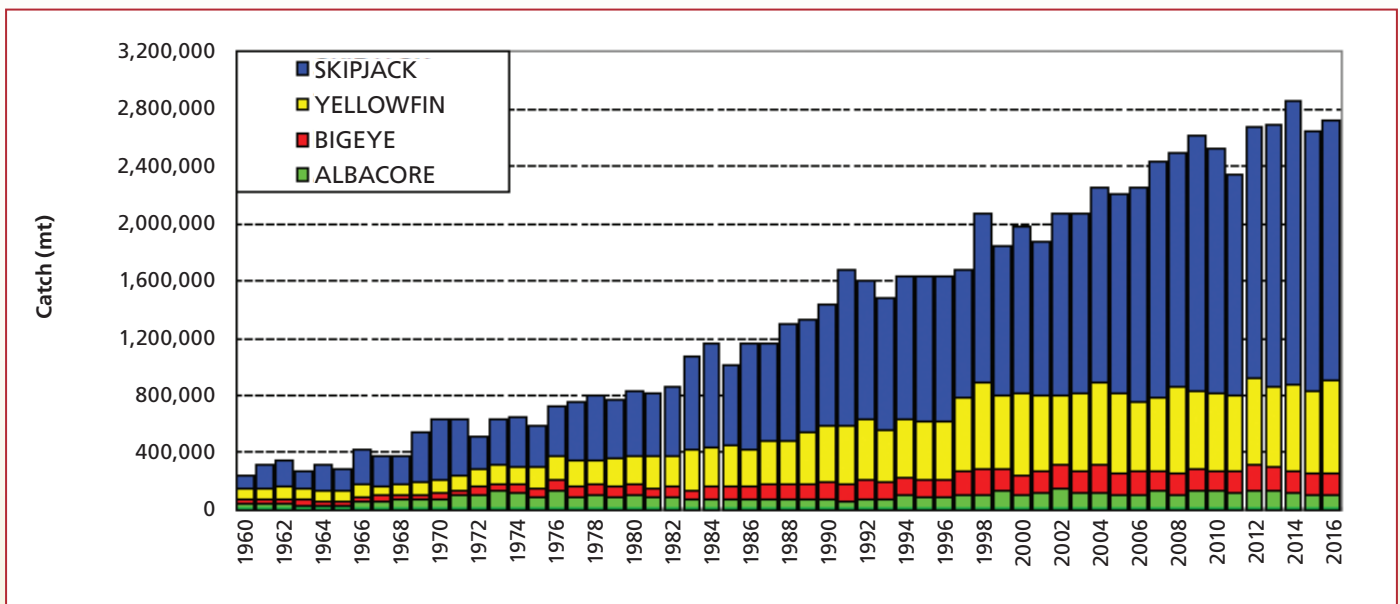
Longline fishery proposals included a) EEZ-based effort limits, b) spatial longline limits that apply only within 20° N and 20° S, c) Olympic high seas effort limits, d) high sea longline catch limits with exemptions, and e) transferable country-based longline limits.

The US Participating Territories to the WCPFC (i.e., American Samoa, Guam and the Commonwealth of the Northern Mariana Islands) were represented at the meeting. The American Samoa delegation provided statements on behalf of its interests including the issue of reduced high seas access for US purse-seine vessels that deliver to Pago

Pago, which has been linked to reductions in fish supply being delivered to local canneries. The delegation reported that Samoa Tuna Processors shutdown last year, leaving 800 workers unemployed, and that StarKist Samoa, with over 2,000 employees, will temporarily cease operations in the coming weeks, causing major disruptions to the local economy. It was also noted that American Samoa is a fisheries hub in the South Pacific, and its fish processing facilities, fuel prices and related infrastructure support fleets of many WCPFC members.

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While the Honolulu intersessional meeting was successful in bringing delegates together to advance discussions on management options, countries are still far apart in several areas regarding international management of skipjack, yellowfin and bigeye tuna. The good news is that, although heavily exploited, all three stocks appear to be in a relatively healthy condition and are not experiencing overfishing. At the close of the meeting, the chair indicated that another special negotiating session will likely be held before the Commission's 14th regular session convenes Dec. 3 to 8, 2017, in Manilla.



Changes Seen in Pacific Bigeye Tuna Stocks, US Longline Quota

Two new assessments conducted this year indicate that Pacific bigeye tuna stocks are not overfished and are no longer subject to overfishing. The National Marine Fisheries Service (NMFS) had in the mid-2000s evaluated that overfishing was occurring in both the Eastern Pacific Ocean (EPO) and Western and Central Pacific Ocean (WCPO) for the species.

The bigeye assessments have supported a modest increase of the US longline catch limits in the EPO. During its 92nd meeting, July 24 to 28, 2017, in Mexico City, the Inter-American Tropical Tuna Commission (IATTC) raised the catch limit for US longline vessels greater than 24 meters from 500 metric tons (mt) to 750 mt of bigeye. The new EPO longline quota begins in 2018 and runs through 2020. The quotas for Asian longline fleets, which are much higher than the US quota, will remain the same (see fig. 1).

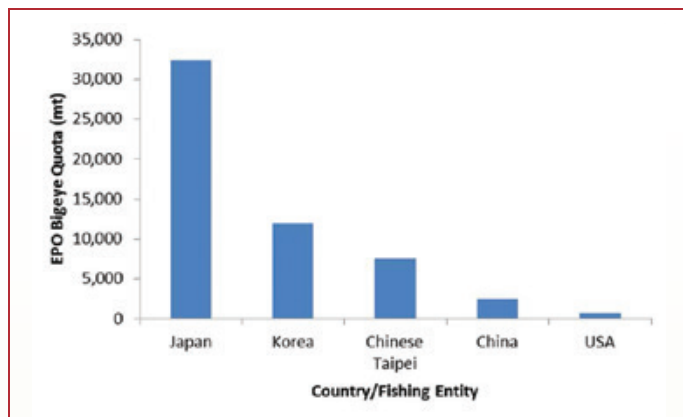


Fig. 1. EPO longline-caught bigeye quota for Asian countries and the United States. The US quota will increase from 500 to 750 metric tons in 2018 and applies to vessels over 24 meters only. The quotas for Asian countries will remain the same.

Virtually the entire US quota is harvested by the Hawai'i longline fishery, which is managed by the Western Pacific Regional Fishery Management Council. The Council has been advocating for an increase in the US EPO longline quota for bigeye for several years. In 2015, about 30 Hawai'i vessels were shut out of the EPO when the US 500 mt quota was reached. The fishery serves the local demand for fresh (iced only) bigeye, favored in the poke and sashimi markets. It also has a national footprint, providing about 90 percent of the domestically caught fresh bigeye in the United States. Yet, the fishery accounts for only about 3.7 percent of the Pacific-wide longline bigeye catch.

The IATTC assessment for the EPO uses 2016 catch data. The WCPO assessment, conducted by the Secretariat of

	EPO quota (mt)	2016 EPO catch
CHINA	2,507	7,276
JAPAN	32,372	12,359
KOREA	11,947	7,031
CHINESE TAIPEI	7,555	6,208

Fig. 2 The EPO catch of bigeye tuna by the East Asian longline fleet has been collectively two-thirds below the recommended total allowable catch despite higher catch per unit effort.

the Pacific Community for the Western and Central Pacific Fisheries Commission (WCPFC), uses data through the end of 2015, a new bigeye growth rate schedule and a realigned stock assessment region boundary in the Central Pacific (10° N boundary between the equatorial and subtropical zones instead of a 20° N boundary). The WCPO assessment indicates that recent spawning biomass is above maximum sustainable yield and above the WCPFC depletion-related limit reference point.

The improved status of Pacific bigeye also includes increased recruitment levels in both the WCPO and EPO, which was reflected in increased catch rates for several longline fleets in recent years. The recruitment upswing could be attributed to positive oceanographic conditions, reduced longline catches of targeted adult bigeye and/or measures restricting the use of purse-seine fish aggregation devices (FADs).

Despite the increased CPUE, the EPO longline catch by the East Asian longline fleets (Japan, Korea, Taiwan and China) collectively has been about two-thirds or less of their combined quotas (fig. 2). In the WCPO, the current longline catches are on average 15 percent lower than in the previous decade. The 2016 total (all international fleets combined) longline catch in the WCPO was the lowest since 1996.

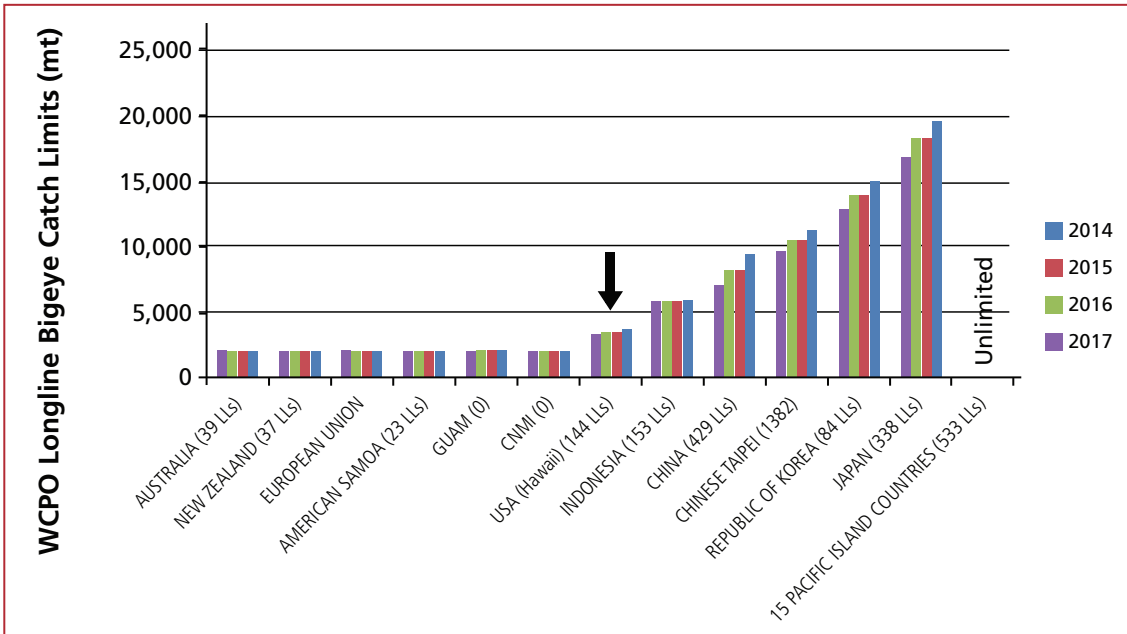
"Based on the more optimistic bigeye stock status and the need to adopt a new measure, it is appropriate for the WCPFC to review the bigeye longline limits," notes Council Executive Director Kitty M. Simonds.

Between 2006 and 2008, the WCPO bigeye limit for the Hawai'i-based fleet was 4,181 mt, which is the amount the Hawai'i fleet landed in 2004. The US longline bigeye quota was reduced by 10 percent to 3,763 mt for the period 2009-2012; reduced again in 2013 to 3,554 mt; again in 2015 to 3,445 mt; and again in 2017 to its present 3,345 mt. Since 2009, the Hawai'i fleet has reached the US quota in the WCPO prior to the end of the calendar year and has been subject to closure. The United States is the only

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Fig. 3: WCPO Bigeye longline catch limits by country for 2014-2017. Numbers in parentheses are longline fleet sizes. Total longline fleet size minus US fleet=3,023 vessels. Arrow highlights US/Hawaii longline fleet.

nation to have done this, which reflects both the lower quota for and more stringent monitoring and enforcement of the US fleet compared to the other nations (see fig. 3). The US longline quotas have not been optimally matched with the Hawai'i longline fleet's capacity and local seafood market demand for fresh bigeye tuna.

For the past several years, the Council has requested that US delegation to the WCPFC recommend that the WCPO longline catch limits be constrained to the tropical equatorial zone, between 20° N and 20° S only rather than applying them over the entire WCPFC area of competence. Approximately 90 percent of the fishing and fishing mortality for bigeye occurs in the 10° N to 10° S band of the equator. By comparison, the Hawai'i fishery is primarily a high latitude, subtropical bigeye fishery, operating predominantly to the north of the Hawaiian Islands. The impact of this fishery on bigeye stock status has been evaluated to be very low.

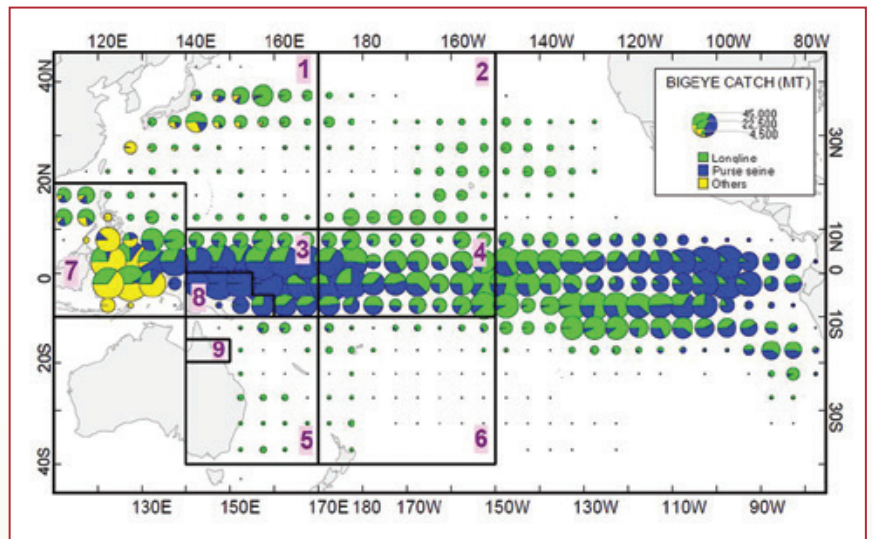
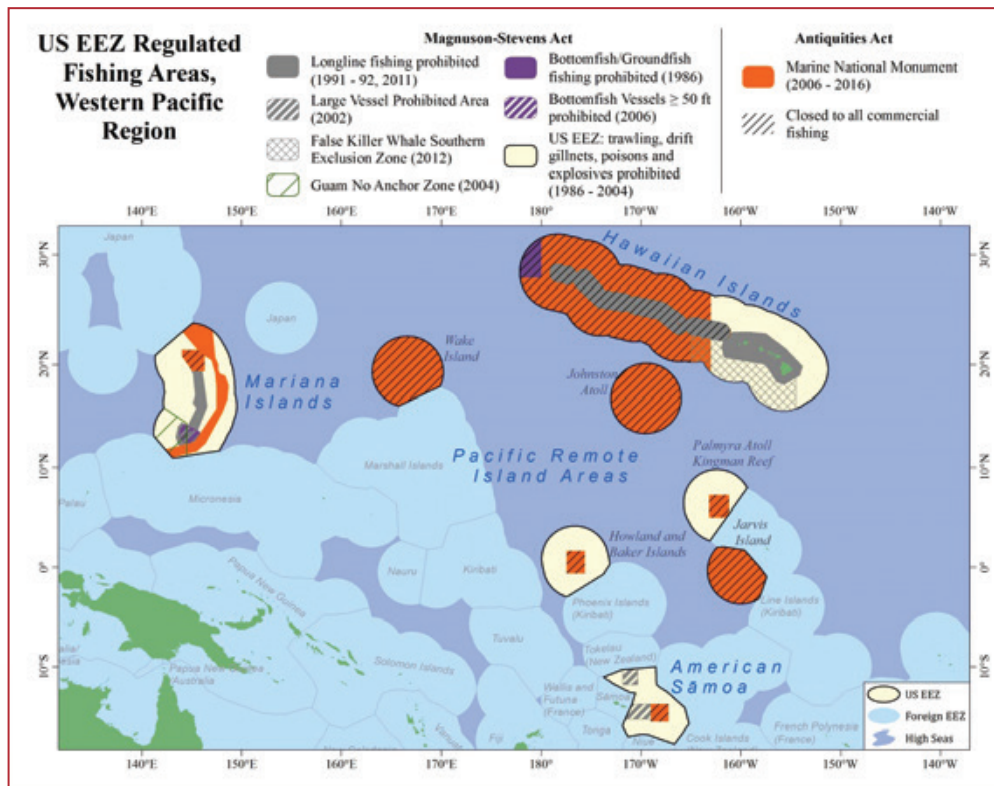


Fig. 4: Bigeye catch distribution by gear, 1990-2016. Source: Williams P, P Terawasi and C Reid. Overview of tuna fisheries in the Western and Central Pacific Ocean, including economic conditions - 2016. WCPFC Science Committee, Rarotonga, Cook Islands. WCPFC-SC13-2017/GN-WP-01. 66 p.

Advocates for Monument Growth Ignore Progress of Regulated Fisheries, Healthy Ecosystems



Before the 1976 passage of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and creation of the Western Pacific Regional Fishery Management Council, more than 100 Japanese and Taiwanese vessels fished unregulated in the waters around the Northwestern Hawaiian Islands (NWHI) for precious coral. The Precious Coral Fishery Management Plan (FMP) developed by the Council and implemented in 1983 eliminated this foreign effort and allowed the coral beds to recover.

The Crustacean FMP developed by the Council was also implemented in 1983. That plan includes a lobster no-take zone within 20 nm of Laysan Island, all NWHI lagoons and NWHI waters shallower than 10 fathoms. It established site-specific NWHI lobster

quotas with a 10 percent risk of overfishing, which was far more conservative than the the 50-percent risk allowed.

The Bottomfish and Seamount Groundfish FMP developed by the Council and implemented in 1986 removed from US waters the Soviet and Japanese trawl fisheries that had overfished seamount groundfish. The FMP limited domestic access to NWHI bottomfish to a handful of local vessels with a maximum vessel length of 66 feet. It banned explosives, poisons, trawl nets, bottom-set gillnets and drift gillnetting and established a no-take zone for seamount groundfish stocks at the Hancock Seamount.

The Pelagic FMP, implemented in 1987, eliminated the Japanese pole-and-line tuna and longline vessels that had fished freely within 3 nm of the NWHI and the main Hawaiian Islands. As with other FMPs developed by the Council, it required fishing permits, logbooks, satellite-based vessel monitoring system (VMS), observer coverage, gear restrictions and training to manage protected species. The plan included the 50-nm Protected Species Zone (established in 1991) and also longline exclusion zones 50-nm around the main Hawaiian Islands. It also protected the Large Vessel Prohibited Area 50-nm around the islands of American Samoa.

The Coral Reef Ecosystem FMP, implemented in 2001, recognized the need for no-use or low-use marine protected areas, limiting permitted fishing. These zones were identified for Hawai'i, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands and the US Pacific Remote Island Areas (Baker, Howland and Jarvis Islands; Johnston, Midway, Palmyra and Wake Atoll; and Kingman Reef).

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 — Council Chair Edwin A. Ebisui Jr.

Advocates for Monument Growth Ignore Progress of Regulated Fisheries, Healthy Ecosystems

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Sefatia Romeo Theken, mayor of Gloucester, Mass., with Kitty M. Simonds, executive director of the Western Pacific Regional Fishery Management Council, at the Council Coordination Committee meeting, May 2017.

"The Council's FMPs ended foreign fishing in US waters and stringently regulated domestic fishing," explains Council Executive Director Kitty M. Simonds. "They safeguarded fish stocks, habitat and protected species as well as the livelihood and culture of fishing, a traditional and significant activity in the US Pacific Islands. The Council pioneered the use of VMS in fisheries, now adopted globally to track vessels by satellite. We banned trawling and drift gill nets throughout the entire 2.2 million square miles of the Western Pacific Region, which accounts for half of the US exclusive economic zone (EEZ). In 1991, we created the Protected Species Zone from 0 to 50 nautical miles (nm) offshore of the Northwestern Hawaiian Islands. Fifteen years later, it was overlaid by the marine national monument that was renamed Papahānaumokuākea."

On April 26 and 28, 2017, President Donald Trump issued Executive Orders 13792 and 13795, calling on the Secretaries of the Interior and Commerce to evaluate the designation of certain national monuments and marine sanctuaries. Ninety-eight percent of monument acres, land and water, under Trump Administration review and 99.6 percent of all marine monument waters in the United States are in the US Pacific Islands, i.e., the Western Pacific Region.

The Secretaries are to make recommendations on proposed modifications to the monuments and potential legislative changes to the Antiquities Act of 1906, which past presidents have used to establish and expand these monuments. The Secretaries are also to report on the acreage, budgetary impacts, consultation and opportunity costs associated with individual national marine sanctuaries and marine national monuments.

Public comments periods for the executive orders ended on July 10 and Aug. 15, respectively. Of the hundreds of thousands of comments that were submitted, virtually all ignored the point that the pristine or near pristine nature of the waters, reefs banks, lagoons and other resources of the marine national monuments existed prior to monument designation. These early protections were due in large part to the Council's initiatives of the past 40 years.

"When the marine monument ocean grab occurred, it was as though the clock had been set to zero and all of the former works and conservation by the Council were ignored," notes Council Chair Edwin A. Ebisui Jr. "The Council's careful management of these waters has significantly contributed to the overall health of the ecosystem. Yet no mention is made of the Council's stewardship and the regulations that ensured that the various archipelagos remained in a near pristine condition. Instead the marine monuments narrative pushed and continues to push a 'just in time' mythos, when all along these massive marine areas were thriving, with abundant and biodiverse conditions, and co-existing with regulated, sustainable domestic fisheries."

The Council Coordination Committee (CCC), which consists of the senior leaders of the nation's eight regional fishery management councils, discussed the Presidential review of the marine national monuments during its annual meeting on May 16-18, 2017, in Gloucester, Mass. The fishing community in New England is impacted by the Northeast Canyons and Seamounts Marine National Monument, the only marine monument outside of the US Pacific Islands.

A CCC letter dated May 16, 2017, to the Secretaries of Commerce and the Interior notes that "designations of marine national monuments that prohibit fishing activities ... have disrupted the ability of the Councils to manage fisheries throughout their range as required by MSA and in an ecosystem-based manner. Marine monument designations have the potential to be counterproductive to achieving domestic fishery management goals."

Secretary of the Interior Ryan Zine provided his draft report to the President on Aug. 24, 2017. The report from Secretary of the Commerce Wilbur Ross is expected by Oct. 25, 2017.

Repairs Underway for Tsunami-Damaged Alia Fishing Boats



On July 26, 2017, repairs were completed on the first alia fishing vessel being restored with Disaster Relief Funds associated with the Sept. 29, 2009, tsunami that struck American Samoa. The repairs are being carried out at the Ronald Reagan Marine Railway in Pago Pago Harbor and under the supervision of the Shipyard Authority's chief executive officer, Moefaauo Bill Emmsley. They include welding of the aluminum double hull and rebuilding and painting of the cabin.

Nine other alia will be repaired in a similar manner over the next few months under a \$30,000 contract. Upon successful completion of those 10 repairs, the American Samoa Department of Marine and Wildlife Resources

(DMWR) plans to execute a second \$30,000 contract with the Shipyard Authority to repair another 10 alia.

The Western Pacific Regional Fishery Management Council was instrumental in assisting the American Samoa Government (ASG) in obtaining the nearly \$1 million Disaster Relief Fund after the 2009 tsunami damaged and destroyed a large number of local alia boats. The proposal was submitted to the National Marine Fisheries Service in 2010. The funding was approved in 2011 and made available in 2012. The alia repair contract with the Shipyard Authority is one of the eight projects that DMWR has set up for use of those Disaster Relief Funds.

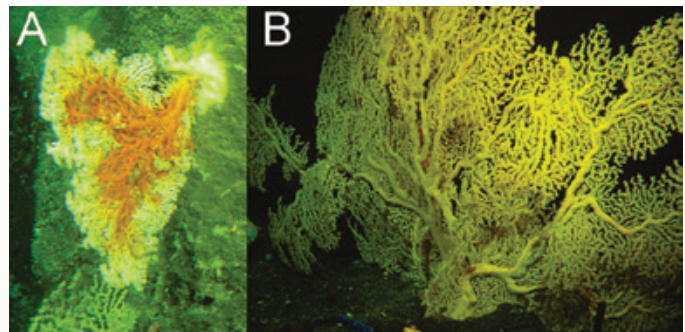
During the 170th Council meeting, held June 19 to 22, 2017, in Honolulu, DMWR Director Henry Sesepasara thanked the Council for its role in making these Disaster Relief Fund projects possible. The repair of these 20 alia boats is part of DMWR's larger plan to revitalize the alia fishery. In addition to this repair project, the department plans to stabilize the alia dock by replacing piles, to renovate and extend the Pago Pago boat ramp and to purchase a second boat trailer. To assist fishermen, the DMWR has purchased flood lights, a flake ice machine and generators for installation at the Malaloa Marina.

Essential Fish Habitat Review

The Western Pacific Fishery Management Council is moving forward with several essential fish habitat (EFH) reviews. The Council is required to describe and promote the conservation and enhancement of habitats that are essential for the growth and development of managed fishery species. In answering the question of what habitats are essential, the Council considers information from fishermen, academia, government agencies and the private sector. Habitats of precious corals are the first managed species complex up for the Council's review.

At its 171st meeting, Oct. 17-19, in American Samoa, the Council will consider whether new distribution information of precious coral species in the main Hawaiian Islands warrants a refinement of its definition of essential habitat for species of precious coral.

In October and November, the Council will hold meetings to solicit comments from the Regional Ecosystem Advisory Committees and other advisory bodies on a review of non-fishing impacts to EFH. The non-fishing impacts review summarizes the best available scientific information on the effects that energy production, mining, development, pollution, etc. have on fish habitat as conceptualized on the scale of ecosystems discussed within the Council's



Photos of the two primary Genera that comprise the Hawaiian precious coral fishery. A—Corallium sp. and B—Gerardia sp. Photo credit F. Parrish, NMFS. Source: State of Deep Coral Ecosystems in the U.S. Pacific Islands Region: Hawaii and the U.S. Pacific Territories.

Fishery Ecosystem Plans (FEPs). The comprehensive review also includes information on mitigating adverse effects to habitat. The Council will review comments from its advisory bodies when considering whether the new information warrants update of the non-fishing impacts sections of the FEPs at its 172nd meeting in March 2018.

For more information, contact Council staff Rebecca Walker at rebecca.walker@wpcouncil.org.

Philippine Fishery Management Mirrors US Bottom-Up Approach



Council senior scientist Paul Dalzell (front center) with the Philippine Bureau of Fisheries and Aquatic Resources staff members during their visit to the Council office in June.

On June 29, 2017, the Western Pacific Regional Fishery Management Council hosted a visit from the Philippine Bureau of Fisheries and Aquatic Resources (BFAR) staff. The group was accompanied by Philippine Agriculture Undersecretary for Fisheries and BFAR National Director Eduardo Gongona, who came to understand the US system of fisheries management.

Council staff emphasized the importance of international fisheries management. Almost 95 percent of all landings from fisheries managed by the Council are pelagic species harvested by the Hawai'i and American Samoa longline

fisheries. Hawai'i in particular lies close to the boundary between the Eastern Pacific Ocean under the jurisdiction of the Inter-American Tropical Tuna Commission and the Western and Central Pacific Ocean under the jurisdiction of the Western and Central Pacific Fisheries Commission.

The BFAR staff provided a presentation on the Fisheries Aquatic and Resource Management Councils (FARMCs) in the Philippines. The FARMCs are established at the national level and in all municipalities and cities adjoining municipal waters as well as by two or more municipalities bordering bays, gulf, lakes, rivers and dams.

Like the US regional fishery management council system, the Philippine FARMC system recognizes the importance of bottom-up rather than top-down management of fishery resources. The FARMC responsibilities include dispute resolution and providing information to the national government to support decision making.

In the Philippines, fisheries with vessels of less than 3 gross tons are considered "municipal" and managed at the local or municipal level. These fisheries employ about 1.3 million fishermen and produce about 1.2 million metric tons, which amounts to about 50 percent of the wild captured fish and a quarter of all fishery production when aquaculture is included. The municipal fisheries are similar to small-scale fisheries in the Western Pacific Region where fishermen operate from small vessels targeting pelagic, bottomfish and coral reef fish.

Can Kona Crabs Survive Limb Loss Injuries?

The 2015 stock assessment for Kona crab (*Ranina ranina*) in Hawai'i looks grim. The poor status, however, could reflect inaccuracies in the data used. A six-month collaborative research and a new stock assessment could soon tell.

The current assessment uses the high discard mortality estimate from the Australian fishery for the species (Kennelly SJ et al. 1990. Mortality of discarded spanner crabs, *Ranina ranina*, in a tangle-net fishery laboratory and field experiments. *Journal of Experimental Marine Biology and Ecology* 140: 39-48). The Australian estimate was used because the estimate for the Hawai'i fishery was unknown.

To improve the accuracy for the new stock assessment expected in 2018 from the NOAA Pacific Island Fisheries Science Center, the Western Pacific Regional Fishery Management Council is investigating the survival rate for released Kona crabs in Hawai'i. Research partners include local fishermen, the State of Hawai'i Division of Aquatic Resources (DAR) and the Waikiki Aquarium.

Hawai'i commercial fishermen catch Kona crabs from boats using a double tangle net with bait. Crabs venturing into the nets get caught by their spines. Because State regulations prohibit the harvest of female crabs, fishermen release them along with crabs with



Kona crab caught in a tangle net. Photo courtesy of John Wiley.

carapaces smaller than the allowable 4-inch minimum size. When being removed from the nets, the crabs may lose some of their limbs, which may reduce their ability to survive after being released.

The Council contracted John Wiley to estimate the survivability rate of the injured and non-injured crabs. Working with Alton Miyasaka and Reginald Kokubun of DAR, Wiley surveyed commercial Kona crab fishermen to determine the extent of crab injury and characteristics of limb breakage. Fishermen were asked which limbs were lost and whether they were whole or partial limbs. Wiley also observed fishery hauls to determine the number, rate and characteristics of injuries from typical fishing operations.

With a Special Activity Permit from DAR, Wiley also worked with fishermen Carl Jellings and Kaipō Miller to gather 100 Kona crabs for a post-release mortality experiment. The crabs were brought to the outdoor raceway facility at the Waikiki Aquarium, under the directorship of Dr. Andrew Rossiter.



Outdoor raceway facility at the Waikiki Aquarium for the post-release mortality estimate experiment. Photo courtesy of John Wiley

The experimental design involved one group with partial limb removal, another with full limb removal and the third with no limbs removed. Crabs were randomly assigned to one of four tanks with sand bottoms and attached to a saltwater well. This tropical and subtropical crustacean inhabits sandy bottoms, where they remain buried during the day and ambush bottom-



Limb loss injury showing signs of healing (circled area). Photo courtesy of John Wiley

dwelling prey. Over the course of several weeks and with assistance of Gwendolen Lentés, the aquarium's curator for live exhibits, Wiley determined the crabs preferred diet. Once acclimated, the crabs were dried so their carapaces could be painted with identification marks. The tanks were monitored with multi-meter probes that measured environmental parameters that could affect the crabs' survivability, including dissolved oxygen, pH, salinity and temperature. The survival of the individuals was tracked daily.

Preliminary results show the crabs are resilient to full and partial limb removal. Only four crabs with full limb removal died during the course of the experiment along with one of the uninjured crabs. The rest thrived. Some carried eggs that spawned and were fertilized to zoea (larvae). The injury sites showed some healing. Blood coagulated into dark spots that sealed the area from further bleeding.

Additional work is needed to more fully understand the post-release mortality of Kona crabs in Hawai'i. The sex ratio of male and female crabs could be determined through on-board observation. The predation rate of released crabs could be estimated from in-water observation and Go-Pro camera recordings of sand burying times.

While the research results to date are optimistic, fishermen should take care when discarding Kona crabs back in the water.

Hawai'i Kona Crab Fishery Quick Facts

- State regulations: Closed breeding season May to August; Minimum size 4-inch carapace length; No spearing; No take of female crabs.
- Federal regulations: 27,600-pound annual catch limit (ACL) for 2015-2016 based on historic catch alone. 3,500-pound ACL for 2017-2018 based on the 2015 stock assessment (recommended by the Council in June 2017; implementation pending National Marine Fisheries Service action).
- Landings: Commercial plummeted from 69,328 pounds in 1972 to below 3,000 pounds in recent years. Non-commercial unknown; DAR collection of non-fish catch data from non-commercial fishermen ended in the early 1990s.

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Consultations Help Mitigate Military Impacts to Mariana Fisheries

The Department of the Navy

is evaluating ongoing and future military training and testing activities in the seas surrounding the Mariana Archipelago beyond 2020. The evaluation will supplement the 2015 Final Environmental Impact Statement (EIS) on Mariana Islands Training and Testing (MITT). The public scoping period for the supplement was open from Aug. 1 until Sept. 15, 2017. Current training and military research, development, testing and evaluation activities are generally the same as those found in the 2015 Final EIS, but new scientific information may be available to better assess the associated environmental impacts. For more information on the Navy's proposed action and EIS timeline, visit <https://mitt-eis.com/>.

The Western Pacific Regional Fishery Management Council has expressed on numerous occasions its concern about military training impacts on fishing access, fishermen safety and fish habitat. The fishing community received some relief when a compromise with the Department of Defense (DoD) was reached over training area W-517 in the southern banks of Guam.

Another positive outcome materialized after a January 2017 consultation between the Commonwealth of the Northern Mariana Islands (CNMI) and federal governments. The consultation is afforded under Section 902 of the Covenant that established the CNMI in political union with the United States, which became law in 1976. Section 902 requires consultation at least every 10 years between special representatives designated by the President of the United States and the Governor of the Northern Mariana Islands. The 2017 consultation resulted in the establishment of the CNMI-DoD Coordinating Council to resolve the impacts of military realignment on the CNMI culture and economic development. The

CNMI-DoD Coordinating Council is expected to take up CNMI's request to include compensation for damage to fisheries and submerged lands in a consultation on continued US interest in the island of Farallon de Medinilla (FDM), a prime bottomfish grounds. The Council has requested that fishing access to FDM be maintained for portions of the 12-nautical mile danger zone that are not used during training exercises and that the DoD and CNMI include fishermen in their negotiations on continued US interest in FDM.

The issue of cleanup at military dump sites is an ongoing safety concern to the CNMI fishing community. In March of this year, the Council requested the DoD complete an inventory and assessment report of all military dump sites throughout the CNMI, including

surrounding waters around Chiget Point, Dump Coke and Suicide Cliff on Tinian, the West side of Agiguan Island near Naftan Rock, and near-shore areas around Saipan. In response, Navy representatives recommended that fishermen contact the CNMI Department of Public Safety (DPS) to evaluate unexploded ordnance; if the DPS requires assistance, it can request Navy Explosive Ordnance Disposal Team support. The responsibility for initial assessment has since transferred to the Fire Department. Further response from Navy representatives revealed that cleanup at sites other than Chiget may involve a coordinated response among several programs—Acts of War munitions, Formerly Used Defense sites, and others—that are not directly managed at Joint Region Marianas.



Unexploded ordnance in the nearshore environment at Marpi, Saipan. Photo credit Floyd Masga

Guam Holds Inaugural Youth Dive Fishing Derby



1. Youth: Vance Peredo, Mentor: Ray Flores. **2.** L-R: Miguel Hernandez, Joshua Calvo, Jonathan Hernandez, Vance Peredo, Elijah Calvo, and Joseph Green. **3.** Youth: Jonathan Hernandez, Mentor: John Hernandez. **4.** Youth: Joseph Green, Mentor: Matthew Diaz. Photos 1, 3, & 4 by Felix Reyes. Photo 3 by Cliff Kyota.

On Aug. 13, 2017, Guam’s 4-H Youth Development Program hosted its first Youth Dive Fishing Derby at Pago Bay. The derby was open to ages 14 through 18 years old. Hosted a day after the Marianas Underwater Fishing Federation (MUFF) Guam Spearfishing Challenge, it focused on bringing youth participants and experienced adults together to build relationships and share experiences through a common interest. Through mentorship by an experienced adult diver, the youth learned new skills, techniques and strategies while fishing together in the open ocean.

At 4 p.m. all teams weighed in their catch. First to arrive was Joseph Green with the largest fish of the day, a mojarra, better known in Chamorro as guaguas, weighing in at 550 grams and measuring 12.5 inches long. In second place was Elijah Calvo with a glass eye, a type of squirrelfish, weighing 209 grams and measuring 10.1 inches long. In third place was Vance Peredo with a spine cheek weighing in at 71 grams and measuring 6.6 inches long. The youngest participant at 14, Jonathan Hernandez, brought in a 6.2-pound eel and a goat fish weighing 43 grams and measuring 5.6 inches.

Guam 4-H State Program Leader Cliff Kyota said he was happy with the turnout as a first-time event. He hoped more will come out next year and maybe even girls.

“This event teaches many things to our youth, from water safety, conservation and a better understanding on the fragility of our natural environment, especially our ocean,” Kyota said. “It’s an event where families and siblings can come out to support one another.”

Kyota expressed his thanks to the supporters and sponsors who helped make the event successful, including the Western Pacific Regional Fishery Management Council’s Guam Advisory Panel, NOAA, Fa’nu’i, Guam Fisherman’s Cooperative, MUFF, University of Guam’s Cooperative Extension Service and the Guam 4-H Program.

4-H focuses on fostering a sense of stewardship and sustainability amongst Guam’s youth about the islands’ marine and natural resources. It also teaches Guam’s youth conservation by engaging in safe water activities that promote island and ocean sustainability skills, as well as supporting scientific research by collecting fish data, while building healthy relationships between the youth and adults (train-a-trainer model).

My Fishy Summer

By Yejean Chung

Most kids envision their perfect summer at a carnival, in a foreign country or on a beautiful waterfall hike. Not many students would voluntarily take a summer school class. However, this year 21 students ranging from incoming freshmen to upcoming seniors opted to take the Western Pacific Regional Fishery Management Council's summer program focusing on fisheries.



Raymond Naki from Moloka'i shows students the art of the throw net.

"Fisheries?" you may be thinking to yourself. "Who would want to spend their summer learning about stinking fish?" But these 21 students had the time of their lives learning about these amazing (and delicious) creatures, as well as all the people who manage them.

We spent the first seven days in the classroom learning the technical terms and the "book science" behind the fisheries. We had many experts come into our classroom and educate us about their prospective fields. We had both hands-on activities (fishing simulations, cardio-pulmonary resuscitation, etc.) and technical lessons (stock assessment, fishing effort, etc.). We learned about fishery independent data (underwater surveys, fish sold, etc.) and fishery dependent data (logbooks, catch reports, etc.). We even had some really fun games like "Fish Banks" and the property rights/economics game. Through these first few days, I realized that the fishery in Hawai'i was made up of hundreds of interconnected sections, each with its important role whether it be fishing, data collecting, data organizing or policy making. It gave us the foundation that we would need to understand the field trips that we would later go on.

The field trips took us around the island to visit research institutes, heritage sites, ponds, farms, laboratories and more. During these field trips I was able to participate in many hands-on activities including sea turtle necropsies, seabird experiments, fishing for tilapia in a pond, fishing for reef fish on a boat, doing anchialine shrimp pond surveys, visiting the fish auction, going to the Coast Guard and so much more. These field trips may seem unusual and

random, but they all served a larger purpose, to prepare us for our final project.

The main goal of the program changes every year. This year it happened to be learning about traditional management and incorporating that information into a lunar calendar. Every one of the students researched a different fish or organism, and a select few will be featured in a Hawaiian lunar calendar. In order to gather more information about traditional management, we took a trip to Moloka'i where we met many kupuna such as Uncle Mac Poepoe and Uncle Raymond Naki. There we visited fishponds and other culturally important sites in order to learn about traditional methods of management and conservation. The most important place we visited was Mo'omomi, which is a beach along the north shore of Moloka'i that is struggling to pass community-based fishing regulations based on traditional knowledge.

Through this whole program we learned many life lessons including the importance of looking at the whole picture, the importance of knowing the current events surrounding our islands, the importance of scientific versus anecdotal evidence and even the importance of assertiveness. This class was focused on fishery management, but we actually learned us about ourselves and how to manage people. All the amazing people I met during this program, both the teachers and students, have left a lasting impression on me.

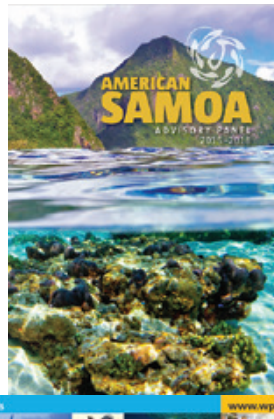
This program opened my eyes to the wonderful fishery that intertwines my entire life on this island. I have lived here my entire life, but it was only until now that I actually paid attention to this important part of our community. I would recommend this class to students who are seeking a career in the fishery, enjoy fishing, care about saving the marine ecosystem, are seafood enthusiasts or are looking for a better way to spend their summer. I can honestly say without a shadow of doubt that this was the best summer of my 16-year-old life!



Students of the Council's 2017 Hawai'i Fisheries and Resource Management summer class visit a fishpond on Moloka'i.

New Outreach Materials

To learn how you can get your opinions and concerns about fisheries management heard, pick up the latest version of the Advisory Panel brochures for American Samoa, Hawai'i, Guam and the Commonwealth of the Northern Mariana Islands. Electronic copies are available at www.wpcouncil.org/education-and-outreach/educational-brochures. For a hard copy, email info.wpcouncil@noaa.gov or contact an Advisory Panel member on your island.



Looking for a speaker for your fishing club meeting, other organization or classroom? Also available on the same webpage is an updated Hawai'i Speaker Program brochure. For hard copies, send a request to info.wpcouncil@noaa.gov.



Intern Reflects on Her Summer with the Council

By Carey Demapan



Scholarship recipient Carey Demapan interviewed Mac Poepoe, cultural fishing expert, on Moloka'i as part of her summer internship.

This past summer has been a memorable learning experience filled with field trips, lectures, meetings and opportunities to connect with others in my educational field. Interning with the Western Pacific Regional Fisheries Management Council, I was tasked to develop recommendations for its annual lunar tide calendar. After reviewing past workshop reports and surveys and analyzing previous calendars,

I provided ideas and suggested ways to make the calendars visually appealing. Future calendars will feature culturally significant fish and fishing practices. Hopefully, the 2018 Lunar Tide Calendar will be available this December.

Every summer, the Council sponsors a high school summer course at Moanalua High School. The course focuses on marine science and involves various class and field sessions. As an intern, I participated in class lectures about pelagic, insular, traditional fisheries and traditional ecological knowledge. A sea turtle necropsy session and cultural trip to

Moloka'i were memorable field activities over this summer internship. At Moloka'i, I was immersed in its history and culture as we visited sites like the Kalaupapa Peninsula lookout, Iliiliopae Heiau, and many fishponds. I experienced the island's culture and the residents' hospitality and kindness.

Overall, this summer internship has been a fruitful adventure. I am grateful to the Council staff for guiding me throughout my educational journey and giving me the opportunity to gain valuable work experience.

Note: Carey is from the Commonwealth of the Northern Mariana Islands (CNMI) and attending the University of Hawai'i at Hilo as a recipient of the US Pacific Territories Fishery Capacity-Building Scholarship Program. Her internship with the Council is part of the scholarship program. Each year, the Council and the partner organizations on its Educational Committee make available up to three scholarships for junior, senior and graduate college students with ties to American Samoa, Guam or CNMI who are seeking degrees related to fisheries science or fisheries management. The announcement for the 2018-2019 scholarships is now available at www.wpcouncil.org/category/educational-opportunities/.

Council Family Updates

Edwin A. Ebisui of Hawai'i and **John E. Gourley** of the Commonwealth of the Northern Mariana Islands (CNMI) have been reappointed as Council members. Ebisui now holds an at-large seat. Gourley continues to hold a CNMI obligatory seat.

Raymond Borja Roberto was also designated by CNMI Gov. Ralph DLG Torres to serve as the new Council member to represent the Territory. Roberto is an employee of the CNMI Department of Lands and Natural Resources.

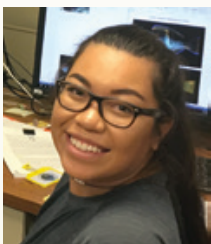
Ryan Okano of the Hawai'i Division of Aquatic Resources has joined the Scientific and Statistical Committee (SSC), replacing Alton Miyaska who will be retiring at the end of the year.



Council Executive Director Kitty M. Simonds presents a commemorative paddle to Paul Callaghan for his 30 years as SSC chair.

Paul Callaghan, who served as the SSC chair for 30 years, stepped off the Committee in June to enjoy his retirement. Callaghan became a member of the Council in 1979, representing the island of Guam and was appointed to the SSC in 1981. He retired from the University of Guam in 1997, becoming an emeritus professor of the University. Dr. Callaghan was instrumental in assisting Council staff in convening the Council's Disproportionate Burden Workshop in September 2014 and presented the workshop results at the 11th Regular Session of the Western and

Central Pacific Fisheries Commission in Apia, Samoa. He was appointed chair of the WCPFC Finance and Administrative Committee between 2013 and 2016.



Keena C. Leon Guerrero, one of two US Pacific Territories Fishery Capacity-Building Scholarship recipients to graduate in 2017, now serves as a biologist for the Fisheries Data Section, Division of Fish and Wildlife, in the CNMI. One of the scholarship requirements is to work one year in a

local fishery-related agency for each year that the scholarship was received. The scholarship is a product of the Council's Education Committee and a partnership of federal and local fishery-related agencies and US Pacific Island post-secondary educational institutions that aspire "to build the capacity of the US territories in the Pacific to effectively manage their fisheries and related resources through the employment of their own people."

In Memoriam

Capt. Leo Ammon Ohai



On Aug. 26, 2017, Leo Ohai, a longtime advisor to the Council and fish provider to the community, passed away peacefully at the age of 94. Ohai was born in Wailua Homestead on Kaua'i and became an independent commercial fisherman and pilot. An article on his akule operations was featured on the cover of the Fall 1999 issue of the Council's Pacific Islands Fishery

News. In 2006, Ohai approached the Council requesting an exemption to longline fish in the longline closed area to support his multi-gear, multi-species fishing practice and enhance the fishing training he was providing to young fishermen from the Hawaiian community. The request resulted in the implementation of Amendment 1 to Council's Fishery Ecosystem Plans, establishing the eligibility requirements and procedures for submitting, reviewing and approving plans submitted to the Council under the Community Development Program. It is known as the Ohai amendment.

Anthony Blair Costa



Anthony "Tony" Blair Costa, a passionate protector of rights for Hawaii's near-shore fishing community, died on Aug. 17, 2017, after a brief battle with cancer. He was 58. Born and raised in Hawaii, he was a part-time commercial fisherman before joining Pacific Ocean Producers

in 1993. As director of foreign sales, Costa developed business opportunities for POP in American Samoa, Samoa, Taiwan, Hong Kong and South Korea. A tenacious proponent of community causes, he was a familiar sight at the State Capitol, where he was spokesperson for Hawaii Nearshore Fishermen from 1998 to 2016. He was instrumental in the passage of legislation in 2010 that prevents the sale of publicly owned Hawaiian fishponds statewide. The legislative victory made possible the ongoing community stewardship and educational programs of the Maunaloa Fishpond Heritage Center. His ability to engage fishery managers, enforcement officials, legislators and administrators through insightful dialogue was exemplary. Memorial contributions may be made to the Anthony B. Costa Trust (to support scholarships for his children) and/or Maunaloa Fishpond Heritage Center, P.O. Box 240204, Honolulu, HI 96825-0204.

Council Recommends Reducing Three Catch Limits

The Western Pacific Regional Fishery Management Council at its 170th meeting, June 19-21, 2017, in Honolulu recommended reducing the 2017 annual catch limits (ACLs) for three species. The reductions were recommended because the average commercial catches of these species have exceeded the ACLs over the past three years or more. For Guam jacks, the recommended 2017 ACL is 23,894 pounds. The 2016 ACL was 21,201 pounds. The average catch the past three years was 26,607 pounds. For Hawai'i crustaceans (primarily white crab) and mollusks (primarily day octopus), the recommended 2017 ACLs are 31,994 and 27,974 pounds, respectively. The 2016 ACLs were 31,163 and 26,637 pounds. The recent three-year averages were 28,140 and 38,889 pounds. The 2016 ACLs were down-adjusted from the original ACLs due to the overage in catches in 2015.

To further improve catch reporting, the Council has requested that local fishery agencies consider licensing and reporting requirements for fishers who harvest ACL species. The Council agreed to work with CNMI to support its mandatory reporting law and to explore, with local fishery management agencies, options for privatizing their data collection programs.



Guam Jack.

Upcoming Events

The 171st Meeting of the Western Pacific Regional Fishery Management Council will convene Oct. 17 to 19, 2017, at the Gov. H. Rex Lee Auditorium (Fale Laumei) in Utulei, American Samoa. The Council may act upon the following six items. The public is invited to provide comments for Council consideration.

American Samoa Large Vessel Prohibited Area (LVPA): The Council will consider options and may take initial action to provide an exemption to US-flag longline vessels over 50 feet in length to fish within the American Samoa LVPA. The Council will consider the needs of cultural fishing practices in its decision making.

American Samoa Longline Permits: The longline limited entry program was developed in 2002 to limit access to a booming fishery. Since then, the small-boat alia fishery has shrunk to a single vessel and the larger vessels are facing economic hardship. In 2011, the Council recommended modifying the program to remove potential regulatory barriers to new entry and to streamline the permit process. At the 170th meeting, the Council endorsed an augmented version of its 2011 recommendation. The Council will consider taking final action on this matter.

Annual Sea Turtle Interaction Limits in The Hawai'i-Based Shallow-Set Longline Fishery: The Council will consider options regarding the regulatory annual limits on loggerhead and leatherback sea turtle interactions in the Hawai'i-based shallow-set longline fishery. The Council will review whether the continuation of hard caps that are based on the biological opinion's incidental take statement for loggerhead and leatherback sea turtle species is necessary given the demonstrated effectiveness of other sea turtle mitigation measures for the fishery that have been in place for more than a decade. The Council will consider whether this action is necessary and appropriate to improve fishery yields while continuing to protect endangered sea turtles.

Offshore Aquaculture: This action would establish a federal management program to develop a sustainable aquaculture industry in the US EEZ waters around American Samoa, Hawai'i, Guam, CNMI and the Pacific Remote Island Areas. The program would provide a framework for the Council and NMFS to review and authorize where, how and

how much aquaculture is developed and to regulate and manage aquaculture activities in the EEZ.

Fishery Species In Need of Conservation and Management: The Council will review the management unit species deemed as in need of federal conservation and management and decide whether to remove the remaining species from the Fishery Ecosystem Plans or reclassify them as Environmental Components, which will be monitored and managed using an ecosystem-based fishery management approach.

Annual Catch Limits for 27 Coral Reef Fish Species in The Main Hawaiian Islands: The Council will review a peer-reviewed stock assessment of 27 species of coral reef fish in Hawai'i; a SSC working group's evaluation of the new scientific information and its recommendation to provide new specifications for five species; and the P* working group's risk level determinations for the species. The Council may recommend new annual catch limits for the species.

Gold Coral: The Council placed a five-year moratorium on the harvest of gold coral in 2008 due to discrepancies in growth estimates for the species in the Western Pacific Region. This moratorium was continued in 2013 due to the need for additional information and study of gold coral growth rates. The moratorium will expire in 2018. The Council will propose an action to ensure the sustainability of the gold coral fishery.



The Fishers Forum On "Fishing: Food. Life. Future." is a free, family-friendly public event from 6 to 9 p.m. on Oct. 18, 2017, at the Gov. H. Rex Lee Auditorium (Fale Laumei), in Utulei, American Samoa. It will feature an alia boat displayed by the American Samoa Alia Association, entries to the Council's high school exhibit contest on American Samoa fisheries and their importance, and a variety of local and federal fishery-related organizations and agencies, including the Coral Reef Advisory Group, StarKist, Pago Pago Marine Charters, US Coast Guard Auxiliary, the Cook Island Fisheries Office, Western Pacific Regional Fishery Management Council and more. Entries to the high school exhibit contest will be judged, and the winners will be awarded their prizes. The Forum is part of the 171st Council meeting.



2017 Council Calendar

Connect with the Council on Social Media

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- Check us out on YouTube (youtube.com/wpcouncil) and Vimeo (vimeo.com/wprfmc)

October

10-12

127th Scientific and Statistical Committee, Lihue, Kaua'i

14

American Samoa Advisory Panel and Training on Fisheries and Climate, Utulei, American Samoa

14

Fina'naguen Peskadot, Hagåtña, Guam

16

American Samoa Regional Ecosystem Advisory Committee, Utulei, American Samoa

17-19

171st Western Pacific Regional Fishery Management Council, Utulei, American Samoa

18

Fishers Forum, Utulei, American Samoa

24-25

Permanent Advisory Committee to the US Delegation to the Western and Central Pacific Fisheries Commission, Honolulu

November

7-9

Albatross Workshop, Honolulu

15

CNMI Regional Ecosystem Advisory Committee and Training on Fisheries and Climate, Garapan, CNMI

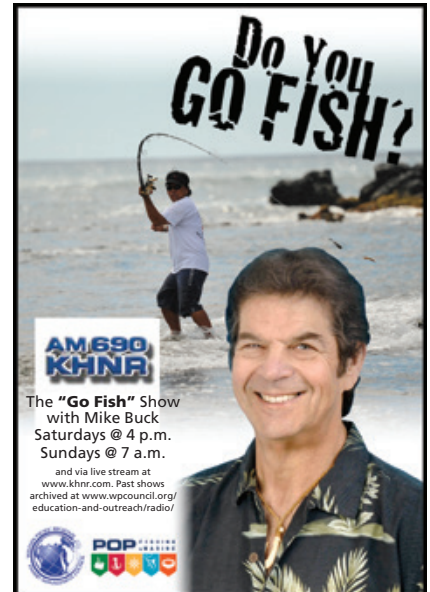
17

Guam Regional Ecosystem Advisory Committee and Training on Fisheries and Climate, Tumon, Guam

December

3-7

14th Western and Central Pacific Fisheries Commission, Philippines



The "Go Fish" Show with Mike Buck Saturdays @ 4 p.m. Sundays @ 7 a.m. and via live stream at www.khnr.com. Past shows archived at www.wpcouncil.org/education-and-outreach/radio/

RECIPE Faiai Fe'e (Umu Baked Coconut Octopus)



This recipe comes courtesy of Lafoia and Vasati Bird of Masefau Village on the north shore of Tutuila, American Samoa.



Ingredients

- 1 Tbs salt
- 1 Tbs pepper
- 8 cups coconut milk
- 1 large onion (sliced)
- 16 taro leaves (juvenile)
- 4 lbs of cubed fe'e (octopus)

Method

Add a heaping tablespoon each of salt and pepper to 8 cups of coconut milk.

Add onion slices to coconut milk mixture.

Spread an 8" x 8" square of tin foil over your counter surface, and cover it with 4 juvenile taro leaves, each overlapping about half of the one before it.

Scoop about 1 1/2 cups of octopus (1/2" cubes) into the center of the 4 taro leaves, and fold the foil to form a makeshift cup.

Pour 1 1/4 cups of coconut cream over the octopus and close the foil around the taro leaves and octopus, forming a teardrop shape.

Repeat this to make 4 total servings.

Cook 30 minutes in an umu (earth oven) over hot rocks, or 45 minutes at 350° F in a conventional oven.

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